UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

DENTAL LABORATORY CAREER LADDER

AFSC 4Y0X2

OSSN 2350

APRIL 1999

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION AND TRAINING COMMAND
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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Dental Laboratory career ladder, Air Force Specialty Code (AFSC) 4Y0X2. Authority for conducting occupational surveys is contained in AFI 36-2623. Copies of this report and pertinent computer printouts are distributed to the Air Force Functional Manager, the operations training locations, all major using commands, and other interested operations and training officials.

The survey instrument was developed by Second Lieutenant Tyson C. Frerking, Inventory Development Specialist, with computer programming support furnished by Mr. Tyrone Hill. Ms. Dolores B. Navarro provided administrative support. Mrs. Christine G. "Chris" Garcia, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Additional copies of this report can be obtained by writing AFOMS/OMYXI, 1550 5th Street East, Randolph AFB Texas 78150-4449, or by calling DSN 487-5543. For information on the Air Force occupational survey process or other on-going projects, visit our web site at http://www.omsq.af.mil.

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SUMMARY OF RESULTS

1. ***Survey Coverage***: The Dental Laboratory career ladder was surveyed to provide current job and task data for use in updating career ladder documents and training programs. Survey results are based on responses from 328 respondents, accounting for 71 percent of the total assigned population. All major using commands were well represented in the survey.

2. ***Specialty Jobs***: One cluster and five independent jobs were identified in the career ladder structure analysis. Seventy-one percent of the survey sample grouped into the Fixed Restoration Cluster. These airmen perform the core technical tasks of the specialty. The five other jobs identified were an entry-level job (Dental Lab Apprentice); three specialty jobs (Orthodontic Appliances Fabricator, ADL Removable Partial Denture, and ADL Ceramic Prostheses Fabricator) and a management and supervisory job (Dental Lab NCOIC and Superintendent).

3. ***Career Ladder Progression***: Normal career ladder progression within the AFSC 4Y0X2 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving a wide variety of dental lab activities. At the 5-skill level, personnel are still heavily involved with dental lab activities but begin to become involved with some supervisory duties accounting for 15 percent of their relative job time. Seven-skill level personnel reflect a clear shift toward supervisory and management work spending 46 percent of their job time on these duties.

4. ***Training Analysis***: The Specialty Training Standard (STS) and Plan Of Instruction (POI) are well supported by survey data.

5. ***Job Satisfaction***: In general, job satisfaction indicators reflect a high job satisfaction rating for AFSC 4Y0X2 personnel. Even though the job satisfaction rating were high, the lower satisfaction rating for the specialty was in the area of "reenlistment intentions". The lowest rating in this area was the 49-96 months TICF group, with only 51 percent planning to reenlist.

6. ***Implications:*** The career ladder structure is very similar to that found in the previous occupational survey report. Career ladder progression is normal, showing a movement away from the technical tasks common at the lower skill levels as the incumbents move toward the higher skill levels. The STS and POI are well supported, but should be reviewed for possible refinement. Job satisfaction ratings for this career ladder are good with lower satisfaction rating in the area of reenlistment intentions.

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DENTAL LABORATORY CAREER LADDER
(AFSC 4Y0X2)

INTRODUCTION

This is a report of an occupational survey report (OSR) of the Dental Laboratory career ladder completed by the Air Force Occupational Measurement Squadron (AFOMS). This survey was conducted to collect current data for use in validating career ladder documents and training programs.

Background

According to AFMAN 36-2108 *Specialty Descriptions*, dated 11 March 1998, 3- and 5-skill level personnel in the AFSC 4Y0X2 career field are responsible for fabrication and repair of complete dental prostheses, fixed and removable partial dental prostheses, and individual crowns, inlays, pontics, splints, stabilizers, and space maintainers. They are also responsible for usage of precious and non-precious metals, acrylic resin, and porcelain as basic materials. In addition to the tasks listed above, 5- and 7-skill level personnel are responsible for the following: maintaining dental laboratory records, preparing reports on laboratory activities, requesting, storing, and issuing supplies, inspecting dental lab equipment and performing minor maintenance. Inspecting and evaluating administrative and technical procedures and reporting deficiency reports and outstanding accomplishments to the Dental Squadron Commander are also included in their responsibilities.

On 30 April 1995 the Dental Laboratory AFSC changed numbers from 4Y1X1 to 4Y0X2. According to the AFMAN 36-2108 Change Guide the main reason for the AFSC change was to establish a common 9-skill level and chief enlisted manager (CEM) code for AFSCs 4Y0X1 (Dental Assistant) and 4Y0X2 (Dental Lab). AFSC 4Y0X2 became a lateral AFSC with a minimum requirement of 30 months in the dental assisting AFSC, 4Y0X1, with minimum DAFSC of 5-skill level. Another requirement for Dental Lab personnel is normal color vision as defined in AFI 48-123, *Medical Examination and Stand*ards. Initial 3-skill level training for AFSC 4Y0X2 personnel is provided through a 24-week course taught at Sheppard AFB TX. The Dental Laboratory Apprentice course, J3ALR4Y032, provides instruction in complete denture fabrication, acrylic base reline and repair, removable partial denture construction, crown and fixed partial denture construction, fabrication of orthodontic appliances, and specialized prostheses. Preventive maintenance and safety precautions for dental laboratory equipment are also stressed.

Entry into the AFSC 4Y0X2 career ladder currently requires an Armed Services Vocational Aptitude Battery Score of General of 64.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) OSSN #2350, dated September 1998. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, tasks from the previous survey instrument, and data from the last OSR. The preliminary task list was refined and validated through personal interviews with 32 subject-matter experts (SMEs), selected to cover a variety of major commands (MAJCOMs) at the following operational bases:

BASE	REASON FOR VISIT
381st Training Squadron (381 TRS) 82nd Dental Squardon, (82 DS), Sheppard AFB TX	Location of Dental Lab Technical School
12 Dental Squadron, Randolph AFB TX	Small lab clinic where airmen may accomplish a broader range of general tasks
59 Dental Squadron, Lackland AFB TX	The 59 DS has the only maxillofacial lab that utilizes stereolithography (SLA) to create prosthodontic appliances
21 Dental Squadron, Peterson AFB CO	The 21 DS is an Area Dental Lab (ADL) unique for method of assigning projects
United States Air Force Academy CO	Task List verification

The resulting JI contained a comprehensive listing of 440 tasks grouped under 13 duty headings and a background section requesting such information as paygrade, duty title, functional area, and geographical area. Additional background questions dealing with the following subjects were requested and included: type of training in dental implantology, type of laboratory to which assigned, type of training in dental implantology obtained, metal-ceramic used to fabricate fixed restorations, investment techniques used to fabricate gold castings, and certification status.

Survey Administration

From September through December 1998, base-training offices at bases worldwide administered the inventory to all eligible AFSC 4Y0X2 personnel. Members eligible for this survey consisted of the total assigned 3-, 5-, and 7- skill level population, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time the JIs were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center (AFPC).

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale, showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across MAJCOMs and paygrade groups, MAJCOM distribution of eligible and sampled AFSC 4Y0X2 personnel are reflected in Table 1. Table 2 reflects the paygrade distribution for personnel. The 328 respondents in the final sample represent 81 percent of the total eligible personnel. As reflected in this Table 1, the survey sample is a good representation of the career ladder population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. While most participants in the survey process completed an USAF JI, selected senior AFSC 4Y0X2 personnel were asked to complete a second disk for either training emphasis (TE) or task difficulty (TD) surveys. The TE and TD surveys were processed separately from the JIs. The information gained from task factor data is used in various analyses and is a valuable part of the training decision process.

TABLE 1

MAJCOM DISTRIBUTION OF AFSC 4Y0X2 PERSONNEL

COMMAND	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
USAFA/AFSPC	21	26
AETC	19	20
AFSOC	*	1
AMC	12	10
USAFE	12	12
PACAF	11	8
ACC	14	13
AFMC	10	9
OTHER	1	1

TOTAL SAMPLE

Total AFSC 4Y0X2 Assigned - 464*
Total AFSC 4Y0X2 Eligible - 406*
Total Survey Disks mailed - 406
Total Survey Disks returned - 383
Usable Survey Disks - 328
Percentage of assigned population - 71%
Percentage of eligible assigned - 81%

TABLE 2

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

PAYGRADE	PERCENT OF ELIGIBLE*	PERCENT OF SAMPLE
E-1 to E-3	2	1
E-4	37	36
E-5	37	41
E-6	15	14
E-7	8	8
E-8	1	0

* Eligible strength as of September 1998

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 20 senior AFSC 4Y0X2 NCOs who completed a TE survey were asked to select tasks they felt required some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided at resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method.

TE data were independently collected from 20 experienced 7-skill level personnel stationed worldwide. As with TD rating, the interrater reliability was computed and found to be acceptable, indicating there was sufficient agreement among raters as to which tasks require some form of structured training. In this specialty, tasks rated high in training emphasis have ratings of 4.75 and above, with an average rating of 2.81. TE data may also be used to rank order tasks, indicating those tasks which senior NCOs in the field consider the most important for first-job or assignment airmen to be trained to perform.

Task Difficulty (TD). TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 31 senior AFSC 4Y0X2 NCOs who completed the TD survey were asked to rate the difficulty of each task using a 9-point scale (i.e., extremely low to extremely high). Interrater reliability was good, indicating very strong agreement among raters. Ratings were standardized so tasks have an average difficulty of 5.00, with a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TE and TD ratings can provide insight into first-job or assignment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

The occupational analysis process begins with an examination of the career ladder structure. The structure of jobs within the Dental Laboratory career ladder were examined on the basis of similarity of tasks performed and the relative percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

The first step in the analysis process is to identify the structure of the career ladder in terms of the jobs performed by respondents. The Comprehensive Occupational Data Analysis Programs (CODAP) assists by creating an individual job description for each respondent based on the tasks performed and the relative amount of time spent on the tasks. The CODAP automated job clustering program then compares all the individual job descriptions, locates the two descriptions

with the most similar tasks and time spent ratings, and then combines them to form a composite job description. In successive stages, new members are added to this initial group, or new groups are formed based on the similarity of tasks and time spent ratings. The basic group used in this hierarchical clustering process is the ***Job***. When two or more jobs have a substantial degree of similarity in tasks performed and time spent on tasks, they are grouped together and identified as a ***Cluster***. The structure of the career ladder is then defined in terms of jobs and clusters of jobs. The resulting job structure information can be used to evaluate the accuracy of career ladder documents (i.e., AFMAN 36-2108 *Specialty Descriptions*, the Career Field Education and Training Plan and Specialty Training Standards (STSs) and to gain a better understanding of current utilization patterns. The above terminology will be used in the discussion of the AFSC 4Y0X2 career ladder structure.

Overview of Specialty Jobs

Structure analysis identified one cluster and five jobs within the survey sample. Based on task similarity and relative time spent, the jobs performed by AFSC 4Y0X2 personnel are illustrated in Figure 1. A listing of those jobs is provided below. The stage (ST) number shown beside each title is a reference to computer-printed information; the letter "N" represents the number of personnel in each group. The respondents forming these stages account for better than 94 percent of the survey sample.

I. FIXED RESTORATION CLUSTER (ST0019, N=235)

II. ORTHODONTIC APPLIANCES FABRICATOR JOB (ST0028, N=41)

III. DENTAL LAB NCOIC AND SUPERINTENDENT JOB (ST0024, N=13)

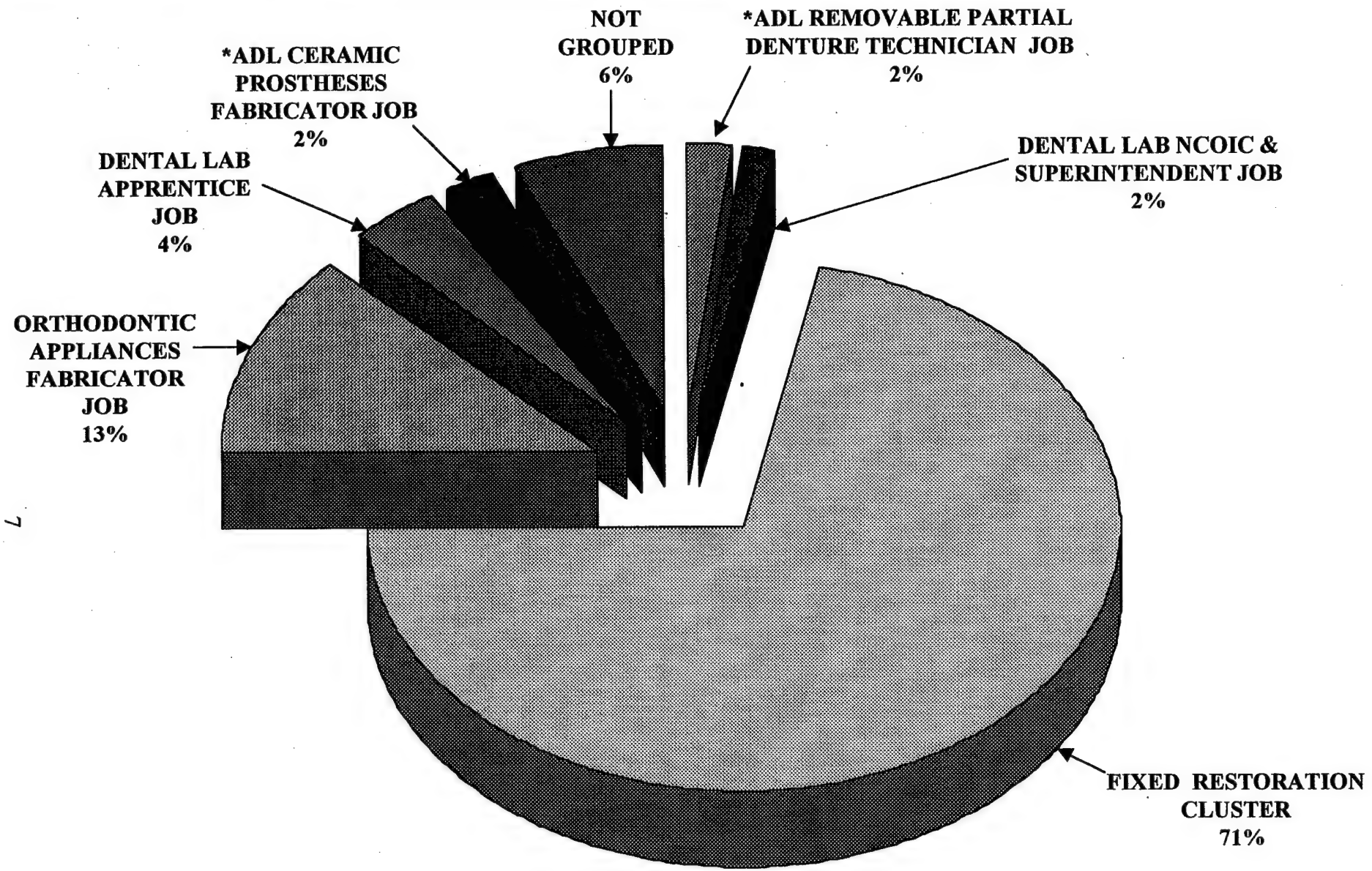
IV. AREA DENTAL LABORATORY (ADL) REMOVABLE PARTIAL DENTURE (RPD) JOB (ST0022, N=7)

V. DENTAL LAB APPRENTICE JOB (ST0027, N= 6)

VI. ADL CERAMIC PROSTHESES FABRICATOR JOB (ST0034, N=5)

Group Descriptions

The following paragraphs contain brief descriptions of the cluster and jobs identified through the career ladder structure analysis. Table 3 presents the average relative percent time spent on duties by members of these specialty jobs. Selected background data for these jobs are provided in Table 4. Representative tasks for all the jobs and the cluster are contained in Appendix A.



AFSC 4Y0X2 CAREER LADDER JOBS

*Area Dental Lab (ADL)- Kadena, Peterson, and Ramstein

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

		FIXED RESTORATION CLUSTER ST19 (N=235)	ORTHODONTIC APPLIANCES FABRICATOR JOB ST28 (N=41)	DENTAL LAB NCOIC AND SUPERINTENDENT JOB ST24 (N=13)	ADL REMOVABLE PARTIAL DENTURE TECHNCIAN JOB ST22 (N=7)	DENTAL LAB APPRENTICE JOB ST27 (N=6)	ADL CERAMIC PROSTHESES FABRICATOR JOB ST34 (N=5)
A	PERFORMING GENERAL LABORATORY ACTIVITIES	18	37	3	23	27	13
B	FABRICATING DENTURE BASES	8	26	2	5	0	0
C	FABRICATING REMOVABLE PARTIAL DENTURE (RPD) FRAMEWORKS	1	3	1	44	0	0
D	FABRICATING FIXED RESTORATIONS	33	5	2	1	55	20
E	FABRICATING CERAMIC OR METAL-CERAMIC RESTORATIONS	14	*	1	*	*	46
F	FABRICATING ORTHODONTIC APPLIANCES	2	6	*	0	0	0
G	FABRICATING SPECIAL PURPOSE APPLIANCES	3	9	*	0	*	0
H	FABRICATING MAXILLOFACIAL MODELS THROUGH STEREOLITHOGRAPHY	*	*	0	0	0	0
I	PERFORMING MEDICAL READINESS ACTIVITIES	3	2	2	5	5	2
J	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	8	5	45	14	4	11
K	PERFORMING TRAINING, PROFESSIONAL DEVELOPMENT, AND COMMUNITY SUPPORT ACTIVITIES	3	2	28	5	0	5
L	PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES	3	2	10	1	3	*
M	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	3	2	5	1	5	2

NOTE: Columns may not add to 100 percent due to rounding

* Indicates less than one percent

TABLE 4

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	Fixed Restoration Cluster (ST19)	Orthodontic Appliances Fabricator Job (ST28)	Dental Lab NCOIC & Superintendent Job (ST24)	ADL Removable Partial Denture Technician Job (ST22)	Dental Lab Apprentice Job (ST27)	ADL Ceramic Prostheses Fabricator Job (ST34)
NUMBER IN GROUP	235	41	13	7	6	5
PERCENT OF TOTAL SAMPLE	71%	13%	4%	2%	2%	2%
PERCENT IN CONUS	77%	68%	67%	68%	100%	60%
DAFSC DISTRIBUTION:						
4Y032	5%	15%	0	0	0	0
4Y052	81%	73%	8%	71%	100%	100%
4Y072	14%	12%	92%	29%	0	0
PREDOMINANT GRADE (S)						
E-3	1%	2%	0	0	0	0
E-4	34%	55%	0	29%	50%	20%
E-5	45%	28%	8%	42%	50%	80%
E-6	14%	15%	23%	29%	0	0
E-7	6%	0	69%	0	0	0
AVG MONTHS IN CAREER FIELD	89	72	150	130	29	106

TABLE 4 (Continued)

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	Fixed Restoration Cluster (ST19)	Orthodontic Appliances Fabricator Job (ST28)	Dental Lab NCOIC & Superintendent Job (ST24)	ADL Removable Partial Denture Technician Job (ST22)	Dental Lab Apprentice Job (ST27)	ADL Ceramic Prostheses Fabricator Job (ST34)
NUMBER IN GROUP	235	41	13	7	6	5
PERCENT IN FIRST ASSIGNMENT	41%	51%	16%	0	67%	20%
PERCENT SUPERVISING	53%	34%	77%	71%	33%	100%
TYPE OF LAB ASSIGNED						
None	1%	2%	38%	0	0	0
Area Dental Lab (ADL)	28%	24%	8%	86%	67%	100
Base Dental Lab (BDL)	68%	72%	38%	14%	33%	0
Other	3%	2%	15%	0	0	0
MAJCOM OR OPERATING AGENCY						
USAFA	22%	5%	0	29%	33%	80
AETC	16%	34%	69%	13%	33%	0
AFSOC	1%	0	0	0	0	0
AMC	13%	5%	0	0	0	0
AFSPC	3%	2%	8%	0	0	0
USAFE	9%	22%	8%	29%	33%	20
PACAF	9%	7%	0	29%	0	0
ACC	14%	15%	15%	0	0	0
AFMC	10%	10%	0	0	0	0
11 WG	3%	0	0	0	0	0

*Eligible strength as of September 1998

Another way to illustrate the content of jobs is by summarizing tasks performed in common by incumbents across the career ladder. CODAP has a process of identifying groups of related tasks and grouping them together to form task modules (TMs). The basis for identifying these related tasks is called co-performance. Co-performance assumes that if incumbents perform task A and task B, there is a high likelihood that the two tasks share common skills and knowledge and can be trained together. CODAP calculates an index of co-performance for each task with every other task by examining the task performance patterns of all the survey respondents as a whole. Thus, the resulting TMs can be used to summarize and compare jobs. The TMs show the number of tasks included in a module, the percent time spent on tasks in that module, and average percent members performing the particular TM. Representative TMs are listed as part of the job description. The list of tasks within respective modules is presented in Appendix B.

I. FIXED RESTORATION CLUSTER (ST0019). This is the core job of the career ladder, performed by 72 percent of the survey sample. Members of this group spend 65 percent of their job time working on fabricating fixed and ceramic or metal-ceramic restorations, and performing general laboratory activities. Sixty-eight percent of these airmen work in a Base Dental Lab (BDL). Due to the small number of people working in the different BDLs, often times BDL personnel must be generalists, as opposed to their more specialized counterparts who usually work in the ADLs. The average number of tasks performed by members of this cluster is 138 tasks. Representative tasks performed by members within this cluster include:

wax patterns for fixed restoration
seat castings
sprue wax patterns for fixed restorations
articulate using arbitrary mounting techniques
finish and polish fixed restorations
cutback wax patterns for porcelain or resin-veneered substructures
apply die spacers
wax metal-ceramic substructure patterns to full contour prior to cutback
restore occlusions of fixed restorations

Two major jobs were identified within this cluster; a specialty job "Fixed Restoration Specialist" and the broadest job in the career ladder "BDL Technician". These jobs deal primary with the fabrication of fixed restorations.

The first job, Fix Restoration Specialist is a small group consisting of five members, two of which are instructors. Unlike the members of the BDL Technician Job, these airmen primarily work with precious metals or alloys. These specialists perform an average of only 59 tasks in comparison to 140 tasks performed by the BDL Technicians. The members of this group hold the 5-skill level and work in a BDL or Tech Training. Representative tasks performed by members of this first job include:

finishing and polishing fixed restorations
seat casting
cast conventional gold alloys
articulate using facebow transfers
fabricate metal occlusals
calculate alloy weight to procude castings
secure precious metals or alloys
deoxidize gold alloy castings

The second job identified within this cluster is the BDL Technicians Job. This is the core job of the career ladder and makes up 70 percent of the survey sample. This is the broadest job in the career ladder, as personnel perform an average of 140 tasks. These airmen spend the majority of their job time fabricating fixed restorations, performing general laboratory activities and fabricating ceramic or metal ceramic restoration. Members of this job primarily work in a BDL (69 percent) and hold the 5-skill level. Representative tasks performed by members of this job include:

cutback wax patterns for porcelain or resin-venerred substructures
wax metal-ceramic substructure patterns to full contour prior to cutback
apply opaque porcelains
apply dentine and enamel porcelains
contour fired porcelains
apply shoulder porcelains
fire porcelains
restore occlusions of fixed restoration

Eighty percent of the members of the Fix Restoration Cluster hold DAFSC 4Y052 with 14 percent holding DAFSC 4Y072. The primary paygrades held by these incumbents are E-5 and E-4 (44 and 34 percent, respectfully). The average time in career field (TICF) for these airmen is over 7 years with 41 percent in their first assignment (see Table 4).

Representative task modules comprising the majority of job time for this cluster are listed below. Accompanying the TM numbers and the module titles are: (1) the number of tasks included in the module, (2) the sum of time spent by all members of the cluster performing tasks in the module, (3) the cumulative time spent by the cluster as each module is added, and (4) the average of the percent members performing all the tasks in each module. Refer to Appendix B to reference the tasks contained within each module.

Some representative TMs for this cluster include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
1	Fixed Restoration Fabrication	33	31	89
2	RPD Fabrication	21	10	69
7	Precious Metals Duties	5	2	46
5	Work-center Management	21	7	42
3	Denture Repair and Fabrication	34	10	51

This table clearly shows the variety of the general laboratory tasks in this cluster, along with the distinct job variations contained within the cluster.

II. ORTHODONTIC APPLIANCE FABRICATOR JOB (ST0028). The 41 members of the Orthodontic Appliance Fabricator Job constitute 13 percent of the survey sample. These airmen spend 41 percent of their relative job time fabricating denture bases, orthodontic and special purpose appliances with an additional 37 percent performing general laboratory activities. These airmen report performing an average of 94 tasks which include fabricating dentures and special purpose appliances such as hard night-guards, athletic mouth-guards, and interim Removable Partial Dentures (RPDs). Seventy-one percent of the airmen working in this job are assigned to a BDL. This job is distinguished from the other Dental Lab jobs by the amount of time spent on orthodontic appliance-specific tasks. Commonly performed tasks include:

articulate using arbitrary mounting techniques
blockout undercuts on casts
fabricate hard night-guards
perform selective grinding procedures
replace broken or missing artificial teeth on complete or partial denture bases
perform selective grinding procedures
fabricate interim RPDs
mark removable appliances with names and social security numbers
abricate bleaching stents
arrange artificial teeth to oppose natural dentitious

Respondents holding this job are junior personnel, averaging 72 months in career field and predominately holding the E-4 paygrade (54 percent). Fifty-one percent of these airmen are in their first assignment and 73 percent hold the 5-skill level (see Table 4).

Some representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
2	RPD Fabrication	21	23	84
3	Denture Repair and Fabrication	34	30	78
4	Denture Tooth Arrangement	4	3	64
9	Orthodontic Fabrication	7	3	41

The Task Module Table displays the specialization in orthodontics duties in this job.

III. DENTAL LABORATORY NCOIC AND SUPERVISOR JOB (ST0024). The 13 members of this job represent only 4 percent of the total survey sample. Members of this job are primarily supervisors reporting 83 percent of their relative job time spent on management, supervisory, and training duties. Seventy-seven percent of these NCOICs hold a direct supervisory position and only 9 percent of their job time is spent on dental lab technician duties (see Table 3). Seven members of this group are assigned to Sheppard AFB and only 46 percent report working in an ADL or BDL. These airmen report job titles such as: Superintendent Dental Lab, NCOIC Dental Lab Flight, NCOIC Base Dental Lab, Superintendent of Curriculum Development, and Squadron Superintendent. They perform an average of 78 tasks. The following are examples of the work performed by these airmen:

Evaluate personnel for compliance with performance standards
Interpret policies, directives, or procedures for subordinates
Evaluate effectiveness of training programs, plans, or procedures
Inspect personnel for compliance with military standards
Evaluate personnel for promotion, demotion, reclassification, or special awards
Develop formal course curricula, plans of instruction, or specialty training standards
counsel trainees on training progress
determine or establish work assignments or priorities
determine training requirements

The primary paygrade for these incumbents is E-7 (69 percent). These members represent some of the most senior and experienced members in the career ladder, averaging the highest TICF in the survey sample of over 12 years. Ninety-two percent of these members hold the 7-skill level. Two members of this group report having less than 48 months in the career field.

Some representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
5	Work-center Management	21	36	84
11	Training Program Duties	15	17	46
6	Scheduling Duties	4	4	69

The TM Table displays the management focus of this job, 57 percent of the incumbent's duty time is spent on tasks within the management, training, scheduling modules.

IV. AREA DENTAL LABORATORY (ADL) REMOVABLE PARTIAL DENTURE (RPD) JOB (ST0022). The 7 members of this job make up 2 percent of the survey sample. All but one of these airmen work in an ADL with the exception of one individual working at Lackland AFB. This job is narrow in scope with members performing an average of 44 tasks. These airmen spend 44 percent of their relative job time working on RPDs, with an additional 23 percent on general laboratory activities. Their responsibilities include such tasks as working with wrought-wire clasps, investing wax patterns for RPDs, and seating finished RPD frameworks on duplicate master casts. The following are typical tasks performed by members holding this job:

finish and polish RPD frameworks
survey casts for undercuts
solder wrought-wire clasps to RPDs framework
prepare blockout wax
dehydrate and seal refractory cast
solder RPD metal frameworks electrically
burnout and cast RPD investment molds
blockout and relieve RPD master casts
fabricate ticonium casting for RPDs
wax and adapt components of RPD framework patterns on refractory casts

Seventy-one percent of the members of this job hold the DAFSC 4Y052 with 29 percent holding the DAFSC 4Y072. The predominate paygrade is E-5 (43 percent) and the average TICF is almost 11 years with none in their first assignment (see Table 4). None of these RPD specialist are assigned outside of CONUS.

Some representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
12	Metal Denture Fabrication	10	19	67
5	Work-center Management	21	14	48
2	RPD Fabrication	21	9	26

The specialization in Denture and RPD duties becomes apparent when referencing to the task module table. Members spend over 34 percent of their time on TM related to these areas.

V. DENTAL LABORATORY APPRENTICE JOB (ST0027). The 6 members in this job account for 2 percent of the survey sample and report performing the least number of tasks in the survey (32). These airmen report 83 percent of their relative job time performing tasks dealing with wax for fixed restorations and performing general laboratory activities. They are responsible for performing such tasks as: waxing, weighing, and investing patterns for fixed restorations, and cutting back wax patterns for resinveneer substructures. What distinguishes this job from the Fixed Restoration Cluster is the narrow scope of the job with the emphasis on tasks dealing specifically with fabricating fixed restorations. The following are examples of the type of work performed by these airmen:

wax patterns for fixed restorations
wax metal-ceramic substructure patterns for full contour prior to cutback
cutback wax patterns for fixed restorations
articulate using arbitrary mounting techniques
disinfect lab equipment or work areas
calculate alloy weight to produce casting
fabricate fixed restorations using microscopes
fabricate diagnostic wax-ups

All the members working in this job hold the 5-skill level and are equally divided holding an E-4 and E-5 paygrade. Sixty-seven percent of the airmen working in this job work in an ADL. The average TICF for this group is 29 months, with 67 percent in their first job. Members of this job are evenly assigned to USAFA, AETC, or USAFE (see Table 4).

Some representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
1	Fixed Restoration Fabrication	33	42	27
8	Supply Activities	9	5	17
2	RPD Fabrication	21	9	25

The TM table above clearly illustrates the emphasis of this job on fixed restoration duties with members spending 42 percent of their duty time working in tasks within the Fixed Restoration Fabrication Module.

VI. AREA DENTAL LABORATORY (ADL) CERAMIC PROSTHESES ABRICATION JOB (ST0034). The 5 members of this job make up 2 percent of the survey sample. These airmen are assigned to an ADL and all but one is assigned out of CONUS. This is a very narrowly focused job with airmen performing an average of only 38 tasks. They work primarily in the ceramics section and 67 percent of their relative job time is spent fabricating ceramic or metal-ceramic restorations and fixed restorations. An additional 24 percent of their job time is spent performing general laboratory and supervisory activities. They are responsible for such task as applying dentine and enamel porcelains, contouring fired porcelains and etching porcelain laminate veneers, staining and coloring correct ceramic restorations as well as performing some supervisory duties. The following are typical tasks performed by these members.

fire porcelains
apply dentine and enamel porcelains
adjust proximal contacts using solid cast
apply intrinsic stains
contour fired porcelains
apply shoulder porcelains
apply and fire over glaze to ceramic restoration
construct refractory dies or cast
apply dentine modifies
glaze ceramic restorations mechanically

The average TICF for this small group is 72 months with only one airman in his first job. Four of these airmen are assigned to USAFA with one assigned to USAFE. They hold a 5-skill level and primary hold the E-5 paygrade.

Some representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Average PMP
1	Fixed Restoration Fabrication	33	46	42
5	Workcenter Management	21	14	36
8	Supply Activities	9	2	9
2	RPD Fabrication	21	4	7
11	Training Program Duties	15	*	4

As can be noted in the TM Table, 46 percent of their duty time is spent on tasks within the Fixed Restoration Fabrication Module. This is reflective of the large amount of time spent fabricating porcelain appliances for fixed restorations.

Summary

One cluster and five jobs were identified in the career ladder structure analysis. The Fixed Restoration Cluster, Orthodontic Appliances Fabricator Job, Dental Lab NCOIC and Superintendent Job, ADL Removable Partial Denture Job, Dental Lab Apprentice, and ADL Ceramic Prostheses Fabricator Job. Three jobs were identified according to specificity and focus of the job, such as working with fixed restoration, removable partials, or orthodontic appliances. Two jobs dealt primarily with working with ceramic prosthesis. These jobs were separated by the depth of work and additional responsibilities held. As one would expect, the least experienced airmen had additional responsibilities in general lab activities while the more experienced airmen had additional supervisory and management activities. The Dental Lab NCOIC and Superintendent Job primarily contain the managerial and supervisory functions of the dental laboratory career field.

COMPARISON OF CURRENT JOB STRUCTURE TO PREVIOUS STUDY

The current job structure was compared with the previous OSR (AFPT 90-982-010, August 1994). Table 5 displays the major jobs reported in the current survey and their equivalents in the previous survey. The career ladder has remained relatively stable over the period between the two surveys. The previous study identified one cluster and seven jobs. Only the Supply Job was not identified as a separate job. The current OSR identified the BDL Cluster and the Crown Fabricator Job within the same cluster unlike the previous OSR where they are identified as separate jobs.

TABLE 5

SPECIALTY JOB COMPARISON BETWEEN CURRENT AND 1994 SURVEY

Current Survey	1994 Survey
Dental Lab Apprentice Job	Fixed Restoration Fabricator Job
ADL Ceramic Prostheses Fabricator Job	ADL Ceramic Prostheses Fabricator Job
Fixed Restoration Cluster	Base Dental Lab (BLD) Cluster Crown Fabricator Job
Orthodontic Appliances Fabricator Job	Orthodontic Appliances Fabricator Job
Dental Lab NCOIC And Superintendent Job	Dental Lab NCOIC And Superintendent Job
ADL Removable Partial Denture Job	Removable Partial Denture Job
	Supply Job

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as AFMAN 36-2108 *Specialty Descriptions* and the (STS) reflect what career ladder personnel are actually doing in the field and what is required of their members.

The distribution of skill-level groups across the career ladder specialty jobs is displayed in Table 6. Table 7 offers another perspective by displaying the average time spent on each duty across the skill-level groups.

Skill-Level Descriptions

AD AFSC 4V0X1

DAFSC 4Y032. The 19 airmen in the 3-skill level group represent 6 percent of the survey sample. Sixty-three percent of these 3-skill level members work in the Fixed Restoration Cluster (see Table 6). These members spend 68 percent of their job time performing general laboratory activities and fabricating fixed restorations and denture bases. They spend an additional 9 percent of their duty time fabricating special purpose appliances. These duties involve tasks such as disinfecting appliances, fabricating bleaching stents, constructing diagnostic casts, and fabricating hard night-guards and athletic mouth-guards. These 3-skill level airmen perform an average of 129 tasks. Representative tasks performed by these 3-skill level airmen are displayed in Table 8.

DAFSC 4Y052. The 254 airmen in the 5-skill level group represent 77 percent of the survey sample. Seventy-four percent of these incumbents work in the Fixed Restoration Cluster with an additional 12 percent working in the Orthodontic Appliances Fabricator Job (see Table 6). These airmen are found in all the jobs identified, with the exception of the Dental Lab NCOIC and Superintendent Job. These 5-skill level airmen report performing fewer tasks than their 3-skill level counterparts (DAFSC 4Y032=129 tasks, DAFSC 4Y052=112 tasks). Five-skill level personnel report spending more job time fabricating fixed and ceramic restorations and orthodontic appliances than their 3-skill level counterparts, and less job time on general lab activities and special purpose appliances.

Although 5-skill level personnel spend almost 80 percent of their job time performing technical duties, it is the percent of job time spent on supervisory functions that primarily distinguishes them from 3-skill level specialists. Representative tasks performed by the 5-skill level airmen are displayed in Table 9 and tasks that reflect differences between the 3- and 5-skill level groups are displayed in Table 10.

TABLE 6

DISTRIBUTION OF DAFSC 4Y0X2 GROUP MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

SPECIALTY JOBS	DAFSC 4Y032 (N=19)	DAFSC 4Y052 (N=254)	DAFSC 4Y072 (N=55)
Fixed Restoration Cluster	63	74	62
Orthodontic Appliances Fabricator Job	32	12	9
Dental Lab NCOIC And Superintendent Job	0	0	22
ADL Removable Partial Denture Job	0	2	4
Dental Lab Apprentice Job	0	2	0
ADL Ceramic Prostheses Fabricator Job	0	2	0
Not Grouped	5	8	3

TABLE 7

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY DAFSC 4Y0X2 GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES		4Y032 (N=19)	4Y052 (N=254)	4Y072 (N=55)
A	PERFORMING GENERAL LABORATORY ACTIVITIES	33	21	13
B	FABRICATING DENTURE BASES	14	9	7
C	FABRICATING REMOVABLE PARTIAL DENTURE (RPD) FRAMEWORKS	2	3	3
D	FABRICATING FIXED RESTORATIONS	21	29	17
E	FABRICATING CERAMIC OR METAL-CERAMIC RESTORATIONS	8	12	7
F	FABRICATING ORTHODONTIC APPLIANCES	4	2	2
G	FABRICATING SPECIAL PURPOSE APPLIANCES	9	4	3
H	FABRICATING MAXILLOFACIAL MODELS THROUGH STEREOLITHOGRAPHY	*	*	*
I	PERFORMING MEDICAL READINESS ACTIVITIES	3	3	2
J	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	2	7	26
K	PERFORMING TRAINING, PROFESSIONAL DEVELOPMENT, AND COMMUNITY SUPPORT ACTIVITIES	1	3	12
L	PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES	2	2	6
M	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	2	3	4

NOTE: Columns may not add to 100 percent due to rounding

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY AFSC 4Y032 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=19)
A0030	Disinfect appliances	100
A0027	Construct working casts with removable dies using Pindex-type systems	100
A0006	Articulate using arbitrary mounting techniques	100
G0234	Fabricate hard nightguards	95
G0218	Fabricate athletic mouthguards	95
G0219	Fabricate bleaching stents	95
A0018	Construct diagnostic casts, other than orthodontic study/progress casts	95
A0035	Mark removable appliances with names and social security numbers	95
A0015	Construct custom impression trays for fixed prosthodontics	95
A0011	Blockout undercuts on casts	95
A0019	Construct master casts for complete dentures	89
A0017	Construct custom impression trays for removable prosthodontics	89
A0014	Construct casts for denture repairs	89
A0045	Ship or receive cases	84
A0037	Prepare impressions	84
A0032	Duplicate master casts, other than for fabrication of RPD frameworks	84
A0039	Prepare slurry water	84
A0020	Construct master casts for RPDs	84
A0033	Fabricate diagnostic wax-ups	84
F0202	Fabricate Hawley retainers	79
A0012	Bulk trim dies	79
D0169	Wax patterns for fixed restorations	79
G0232	Fabricate fluoride carriers	79
A0026	Construct working casts for orthodontic appliances	79
B0071	Fabricate interim RPDs	79
A0036	Perform user maintenance on dental lab equipment	79
B0059	Arrange artificial teeth to oppose natural dentitions	79
G0251	Fabricate surgical splints	63

Average number of tasks performed: 129

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 4Y052 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=254)
A0006	Articulate using arbitrary mounting techniques	91
A0036	Perform user maintenance on dental lab equipment	88
D0169	Wax patterns for fixed restorations	79
D0166	Sprue wax patterns for fixed restorations	79
A0050	Weigh and measure dental lab materials	78
D0123	Apply die spacers	78
D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback	76
D0155	Finish and polish fixed restorations	76
D0136	Cutback wax patterns for porcelain or resin-veneered substructures	76
D0163	Seat castings	76
D0132	Construct casts for fixed restorations	75
E0174	Apply dentine and enamel porcelains	74
D0121	Adjust proximal contacts using solid casts	74
D0162	Restore occlusions of fixed restorations	73
E0188	Fire porcelains	73
A0033	Fabricate diagnostic wax-ups	73
A0031	Disinfect lab equipment or work areas	73
D0135	Contour fired porcelains	72
E0179	Apply shoulder porcelains	72
E0178	Apply opaque porcelains	72
A0030	Disinfect appliances	72
E0191	Oxidize substructures	70
D0154	Finish substructures for porcelain applications	69
E0180	Apply and fire overglaze to ceramic restorations	68
D0142	Fabricate fixed restorations using microscopes	67
D0161	Restore occlusions and substructures	67
D0157	Invest wax patterns to pour to make molds for fixed restorations	65
E0196	Surface stain and color correct ceramic restorations	63
E0184	Fabricate crowns with porcelain labial margins	62
D0145	Fabricate metal occlusals	56

Average number of tasks performed: 112

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 4Y032 AND 4Y052 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 4Y032 (N=19)	DAFSC 4Y052 (N=254)	DIFFERENCE
A0016	Construct custom impression trays for implants	68	26	43
A0008	Attach RAPs to RPD frameworks	79	39	40
A0025	Construct stone matrices for denture repairs	89	51	39
A0032	Duplicate master casts, other than for fabrication of RPD frameworks	84	46	39
A0035	Mark removable appliances with names and social security numbers	95	57	37
G0234	Fabricate hard nightguards	95	58	37
G0251	Fabricate surgical splints	63	27	36
A0017	Construct custom impression trays for removable prosthodontics	89	55	35
G0219	Fabricate bleaching stents	95	60	35
J0340	Conduct supervisory performance feedback sessions	5	36	-31
J0343	Counsel subordinates concerning personal matters	11	41	-31
K0395	Counsel trainees on training progress	11	41	-31
D0145	Fabricate metal occlusals	26	56	-30
J0345	Determine or establish work assignments or priorities	5	34	-29
J0360	Evaluate personnel for compliance with performance standards	5	35	-29
A0034	Interpret and fill prescriptions	26	53	-27
J0381	Write or indorse military performance reports	11	37	-26
J0381	Write or indorse military performance reports	11	37	-26
M0435	Identify and report equipment or supply problems	21	46	-25
J0367	Inspect personnel for compliance with military standards	11	36	-25

DAFSC 4Y072. The 55 members in the 7-skill level group constitute 17 percent of the survey sample. Sixty-two percent of these incumbents work in the Fixed Restoration Cluster with an additional 22 percent working in the Dental Lab NCOIC and Superintendent Job. The Dental Lab NCOIC and Superintendent Job is solely held by 7-skill level individuals. A major leap is seen between 5- and 7-skill level airmen in reference to average time spent on supervisory, managerial, training, and administrative duties.

Seven skill level airmen spend 46 percent of their job time performing supervisory duties in comparison to 15 percent performed by 5-skill level airmen. This higher percentage of supervisory activities is the major distinction between the 5- and 7-skill level airmen. Seven skill level airmen also report the highest average of tasks performed for the specialty, 141 tasks (see Table 11). Representative tasks performed by these senior NCOs are displayed in Table 11. Tasks differentiating between the 5- and 7-skill level groups are displayed in Table 12.

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY AFSC 4Y072 PRSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=55)
J0381	Write or indorse military performance reports	87
J0382	Write recommendations for awards or decorations	87
J0343	Counsel subordinates concerning personal matters	85
J0356	Establish performance standards for subordinates	84
J0363	Evaluate quality of finished prostheses	82
J0367	Inspect personnel for compliance with military standards	82
J0360	Evaluate personnel for compliance with performance standards	82
J0340	Conduct supervisory performance feedback sessions	82
K0395	Counsel trainees on training progress	82
J0345	Determine or establish work assignments or priorities	82
K0394	Conduct on-the-job training (OJT)	80
K0396	Determine training requirements	78
J0342	Conduct supervisory orientations for newly assigned personnel	78
J0368	Interpret policies, directives, or procedures for subordinates	76
J0350	Develop or establish work methods or procedures	76
J0361	Evaluate personnel for promotion, demotion, reclassification, or special awards	75
K0406	Maintain training records or files	73
K0404	Evaluate progress of trainees	69
K0385	Brief personnel concerning training programs or matters	67
L0424	Maintain administrative files	64
J0341	Conduct safety inspections of equipment or facilities	64
J0337	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	64
K0400	Develop or procure training materials or aids	53
K0398	Develop training programs, plans, or procedures	51
K0403	Evaluate effectiveness of training programs, plans, or procedures	47

Average number of tasks performed: 141

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSCs 4Y052 AND 4Y072 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 4Y052 (N=254)	DAFSC 4Y072 (N=55)	DIFFERENCE
J0382	Write recommendations for awards or decorations	30	87	-57
J0356	Establish performance standards for subordinates	28	84	-55
J0342	Conduct supervisory orientations for newly assigned personnel	25	78	-53
J0381	Write or indorse military performance reports	37	87	-51
J0350	Develop or establish work methods or procedures	26	76	-50
J0361	Evaluate personnel for promotion, demotion, reclassification, or special awards	26	75	-49
J0359	Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) or Occupational Safety and Health Administration (OSHA) program	17	65	-49
J0335	Assign personnel to work areas or duty positions, other than medical readiness mobility positions	11	58	-48
K0396	Determine training requirements	30	78	-48
J0345	Determine or establish work assignments or priorities	34	82	-48
K0385	Brief personnel concerning training programs or matters	19	67	-48
J0368	Interpret policies, directives, or procedures for subordinates	30	76	-47
J0337	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	17	64	-47
J0360	Evaluate personnel for compliance with performance standards	35	82	-47
J0346	Develop organizational or functional charts	9	38	-29
L0429	Maintain or update status indicators, such as boards, graphs, or charts	16	45	-29
K0402	Evaluate training methods or techniques of instructors	4	33	-28
J0377	Write inspection reports	4	31	-27
K0409	Prepare job qualification standards (Jobs)	4	31	-27
L0413	Complete accident or incident reports	17	44	-27
M0434	Evaluate serviceability of equipment or supplies	33	58	-26

Summary

AFSC 4Y0X2

A typical career ladder progression within the AFSC 4Y0X2 career ladder is evident, with personnel at the 3-skill level spending the vast majority of their job time performing technical tasks. A moderate shift towards supervisory functions occurs at the 5-skill level, with members still spending more than 80 percent of their duty time performing technical functions. Personnel at the 7-skill level perform both technical and supervisory functions, with a relatively higher percentage of their time spent on supervisory duties, as compared to the more junior personnel.

TRAINING ANALYSIS

One of the many sources of information that can be used to assist in the development of a training program relevant to the needs of personnel in their first assignment is the OSR. Factors which may be used in evaluating training include: the overall description of the job being performed by first-job or first-assignment personnel and their overall distribution across career ladder jobs, percentages of first-job (1-24 months TICF) or first-assignment (1-48 months TICF) members performing specific tasks or using certain equipment or tools, as well as TE and TD ratings (previously explained in the **SURVEY METHODOLOGY** section).

To assist specifically in evaluation of the STS, a course developer from 381 TRS, Sheppard AFB TX, matched JI tasks to appropriate sections and subsections of the Dental Lab STS. It was this matching upon which comparison to those documents was based. A complete computer listing displaying the percent members performing tasks, TE and TD ratings for each task, along with the STS matchings, has been forwarded to the technical school for their use in further detailed reviews of appropriate training documents. A summary of this information is presented below.

First-Assignment Personnel

AFSC 4Y0X2

In the AFSC 4Y0X2 sample, there are 130 members in their first assignment (1-48 months TICF), representing 40 percent of the survey sample. These airmen work in five of the six jobs identified with the exception of Dental Lab NCOIC and Superintendent Job. As displayed in Table 13, approximately 88 percent of their job time is devoted to performing technical tasks. These airmen spend the majority of their job time in three areas: Performing general laboratory activities (24 percent), Fabricating fixed restorations (29 percent), and Fabricating ceramic or metal-ceramic restorations (12 percent).

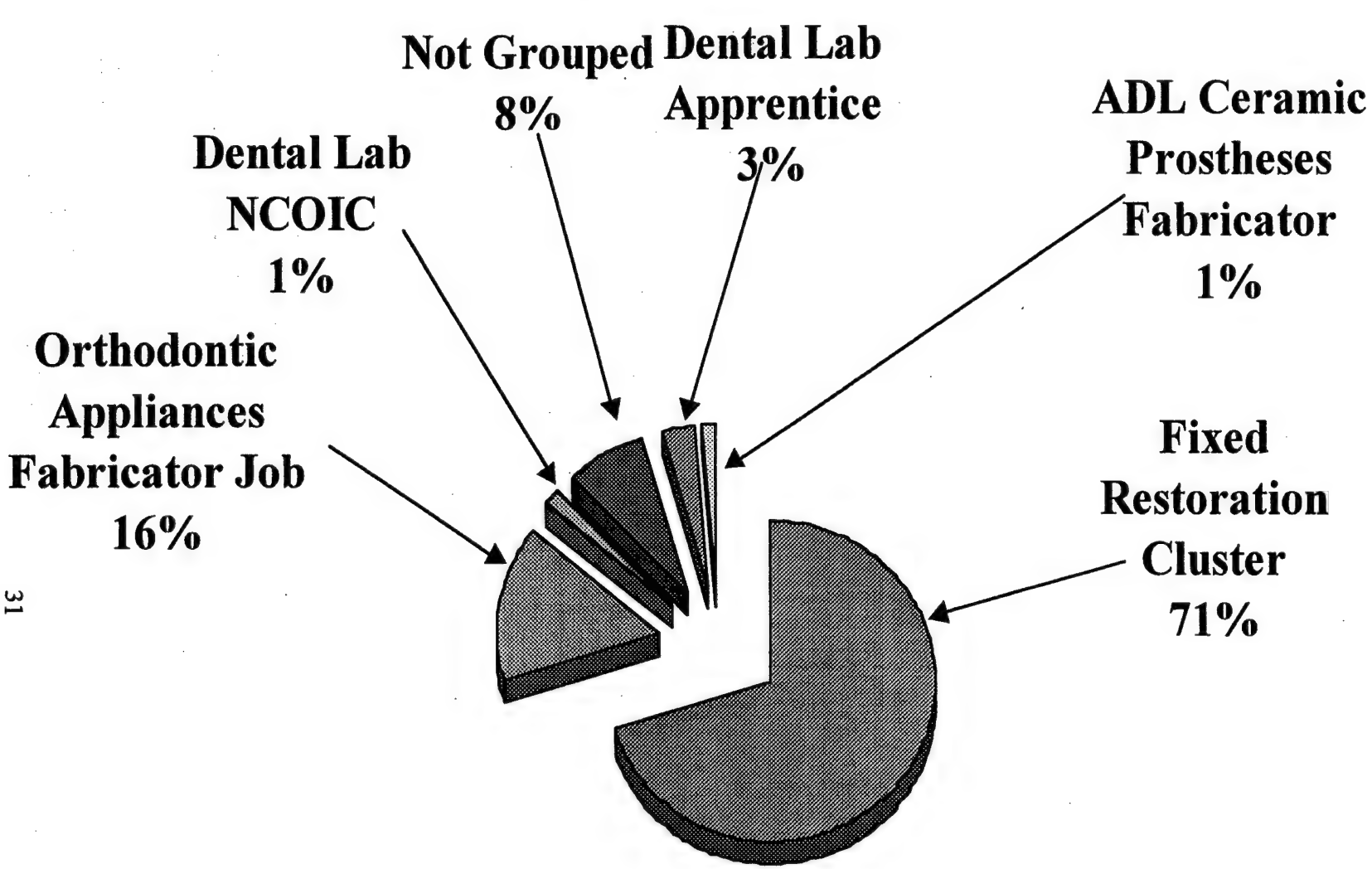
TABLE 13

RELATIVE PERCENT OF TIME SPENT ON DUTIES
BY 4Y0X2 FIRST-ASSIGNMENT PERSONNEL

		PERCENT MEMBERS PERFORMING (N=130)
A	PERFORMING GENERAL LABORATORY ACTIVITIES	24
B	FABRICATING DENTURE BASES	10
C	FABRICATING REMOVABLE PARTIAL DENTURE (RPD) FRAMEWORKS	2
D	FABRICATING FIXED RESTORATIONS	29
E	FABRICATING CERAMIC OR METAL-CERAMIC RESTORATIONS	12
F	FABRICATING ORTHODONTIC APPLIANCES	2
G	FABRICATING SPECIAL PURPOSE APPLIANCES	5
H	FABRICATING MAXILLOFACIAL MODELS THROUGH STEREOLITHOGRAPHY	*
I	PERFORMING MEDICAL READINESS ACTIVITIES	4
J	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	5
K	PERFORMING TRAINING, PROFESSIONAL DEVELOPMENT, AND COMMUNITY SUPPORT ACTIVITIES	2
L	PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES	2
M	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	3

*Indicates no members performing

NOTE: Columns may not add to 100 percent due to rounding



JOBS PERFORMED BY FIRST-ASSIGNMENT

AFSC 4Y0X2 PERSONNEL

(N=130)

The vast majority of first-assignment personnel are involved in day-to-day dental laboratory activities. Table 14 displays typical tasks performed by first-assignment personnel, most of which deal with technical tasks such as disinfecting lab equipment, investing and sprueing wax patterns, articulating using arbitrary mounting techniques, and fabricating special purpose appliances.

One of the objectives of this survey was to gather data for the Training Wing pertaining to the various types of clinical equipment used by AFSC 4Y0X2 first assignment airmen. Table 15 displays equipment used by 30 percent or more of these individuals and includes such items as: Casting Torches, Color Corrected Lights, Hanau Curing Units, Triad Curing Units, Dental Knives, Dental Surveyors, Dental Vibrators, Hydraulic Denture Presses, and Electric Glue Guns.

TE and TD Data

TE and TD data are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank ordering of those tasks in the JI considered important for first-assignment training (TE), along with a measure of the difficulty (TD) of the JI tasks.

A total of 86 tasks were rated high in TE, having a rating of over 4.75. Table 16 lists the tasks rated highest in TE. Included for each task are the percentage of first-job and first-assignment personnel performing and the TD rating. Tasks having a high TE rating deal with a variety of different tasks such as: fabrication of porcelain appliances, soldering metal-ceramic restorations, arranging artificial teeth, working with wax patterns, seating castings, and fabricating interim RPDs.

Sixty-six tasks had a high TD rating. Like the higher rated TE tasks, tasks with higher TD ratings were associated to variety of applications. These tasks are listed in Table 17. Note most of the tasks with high TD have low percent members performing TE and low ratings.

When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY
FIRST-ASSIGNMENT PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=130)
A0006	Articulate using arbitrary mounting techniques	91
A0036	Perform user maintenance on dental lab equipment	87
D0166	Sprue wax patterns for fixed restorations	80
A0027	Construct working casts with removable dies using Pindex-type systems	79
D0169	Wax patterns for fixed restorations	78
D0123	Apply die spacers	78
A0050	Weigh and measure dental lab materials	77
A0030	Disinfect appliances	76
D0136	Cutback wax patterns for porcelain or resin-veneered substructures	75
D0155	Finish and polish fixed restorations	75
D0163	Seat castings	75
A0033	Fabricate diagnostic wax-ups	75
A0031	Disinfect lab equipment or work areas	73
D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback	72
A0018	Construct diagnostic casts, other than orthodontic study/progress casts	72
E0179	Apply shoulder porcelains	70
E0174	Apply dentine and enamel porcelains	70
E0178	Apply opaque porcelains	70
D0162	Restore occlusions of fixed restorations	70
E0188	Fire porcelains	69
D0121	Adjust proximal contacts using solid casts	68
E0191	Oxidize substructures	68
D0135	Contour fired porcelains	67
D0142	Fabricate fixed restorations using microscopes	65
E0180	Apply and fire overglaze to ceramic restorations	65
D0157	Invest wax patterns to pour to make molds for fixed restorations	65
D0154	Finish substructures for porcelain applications	64
D0161	Restore occlusions and substructures	62
D0122	Apply die hardeners	73
D0132	Construct casts for fixed restorations	72
A0011	Blockout undercuts on casts	72
G0218	Fabricate athletic mouthguards	69
A0015	Construct custom impression trays for fixed prosthodontics	68
D0137	Deoxidize gold alloy castings	68
D0130	Cast conventional gold alloys	68

TABLE 15

CLINIC EQUIPMENT USED BY 30 PERCENT OR MORE OF 4Y0X2
FIRST-JOB OR FIRST-ASSIGNMENT PERSONNEL

SELECTED EQUIPMENT USED	PERCENT MEMBERS PERFORMING	
	1-24 MOS TICF (N=63)	1-48 MOS TICF (N=130)
Casting Torches	51	52
Hanau Curing Units	29	42
Triad Curing Units	38	48
Dental Hand Instruments	94	95
Dental Knives	90	93
Bench-Mounted Dental Lathes	63	61
High Speed Dental Lathes	48	54
Dental Surveyors	68	75
Dental Vibrators	94	95
Denture Flasks	62	67
Hydraulic Denture Presses	27	32
Manual Denture Presses	29	34
Dowel Pin Drilling Machine	76	78
Electric Glue Guns	68	68
Hanau Face Bows	40	50
Whip-0Mix Face Bows	51	52
Fume Hoods	56	58
Electric Hand Pieces	92	92
Hemostats	92	92
Magnifying Lenses	52	49
Microblaster Machines	83	82
Microscopes	86	81
Glazing Ovens	48	48
Personal Computers	79	82
Pneumatic Chisels	62	68
Polishing Lithes	63	65
Porcelain Furnaces	68	75
Pots Pressure	67	71
Reline Jigs	44	56
Sandblast Machines	60	58
Electronic Scales	79	78
Shellblast Machines	62	62
Microtorch Soldering Torches	38	50
Steam Cleaner	97	96
Vacuum Forming Machines	56	64
Water Distillers	52	55

TABLE 16

EXAMPLES OF TECHNICAL TASKS RATED HIGHEST IN TRAINING EMPHASIS (TE)
BY AFSC 4Y0X2 PERSONNEL

SELECTED TASKS		TNG EMP*	1-24 MOS (N=63)	1-48 MOS (N=130)	TASK DIFF**
D0132	Construct casts for fixed restorations	7.20	70	72	4.58
D0163	Seat castings	7.15	70	75	4.94
D0167	Wax metal-ceramic substructure contour prior to cutback patterns to full	7.00	68	72	5.65
A0018	Construct diagnostic casts, other than study/progress casts orthodontic	6.90	68	72	2.79
D0169	Wax patterns for fixed restorations	6.90	81	78	5.57
A0027	Construct working casts with removable dies using Pindex-type systems	6.90	73	79	4.51
D0154	Finish substructures for porcelain applications	6.80	60	64	5.23
A0020	Construct master casts for RPDs	6.75	57	62	3.61
A0019	Construct master casts for complete dentures	6.75	60	65	3.57
D0162	Restore occlusions of fixed restorations	6.75	68	70	5.11
D0155	Finish and polish fixed restorations	6.70	73	75	4.73
G0234	Fabricate hard nightguards	6.65	59	62	5.02
D0121	Adjust proximal contacts using solid casts	6.60	62	68	4.75
D0161	Restore occlusions and substructures	6.50	59	62	4.99

* TE MEAN = 2.81; S.D. = 1.94 (High TE = 4.75)
** TD MEAN = 5.00; S.D. =1.00 (High TD = 6.00)

TABLE 17

EXAMPLES OF TASKS RATED HIGHEST IN TASK DIFFICULTY (TD) BY AFSC 4Y0X2 PERSONNEL

SELECTED TASKS		TSK DIFF*	1-24 MOS	1-48 MOS	3 LVL	TNG EMP**
C0103	Fabricate swing-lock RPD frameworks	7.03	0	2	5	.95
E0176	Apply intrinsic stains	6.96	41	42	42	4.05
H0273	Locate and create three-dimensional images of tumors	6.94	0	2	5	.05
D0143	Fabricate FPDs for use with dental implants	6.90	5	12	26	2.85
E0186	Fabricate porcelain jacket crowns	6.80	24	22	21	.75
G0241	Fabricate occular prostheses	6.74	0	4	11	.55
D0144	Fabricate frameworks for removable appliances implant devices using implant devices	6.73	5	8	16	2.30
D0120	Adjust fixed implant prostheses using discharge machines electronic	6.73	2	7	11	1.00
H0271	Interpret CT data	6.72	0	2	5	.05
D0141	Fabricate fixed restorations using attachments	6.69	13	20	37	3.20
G0230	Fabricate ear, nose, or extremity prostheses	6.59	0	2	5	.30
E0187	Fabricate porcelain laminate veneers	6.58	17	22	26	3.35
E0175	Apply dentine modifiers	6.58	54	53	42	3.85
D0139	Fabricate crowns for use with dental implants	6.57	11	22	37	3.05
H0256	Build supports for maxillofacial parts	6.57	0	2	5	.15

* TD MEAN = 5.00; S.D. = 1.00 (High TD = 6.00)
** TE MEAN = 2.81; S.D. = 1.94

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.)

Specialty Training Standard (STS)

A comprehensive review of STS 4Y0X2, dated May 1997, compared STS items to survey data based on the previously mentioned match of tasks to STS elements. STS paragraphs containing general knowledge information, mandatory entries, subject-matter-knowledge-only requirements, or basic supervisory responsibilities were not examined. Typically, STS elements matched to tasks which have sufficiently high TE and TD ratings and are performed by at least 20 percent of a criterion group (i.e., 1-48 months TICF, and 5- and 7-skill level groups), should be considered for inclusion in the STS. Likewise, elements matched to tasks with less than 20 percent performing in all of these groups should be considered for deletion from the STS.

Six STS items with a proficiency code of "1a" level (taught to the proficiency level) were identified with less than the 20 percent of the criterion group, five of these items are required by the American Dental Association. Examples of these entries, with accompanying survey data, are listed in Table 18.

Tasks not matched to any entry of the STS are listed at the end of the STS computer listing. These were reviewed extensively to determine if there were any tasks concentrated around any particular functions or jobs. Several task statements were not referenced such as: Fabrication of fixed restorations using microscopes, Fabrication of metal occlusals, Fabrication of posts and cores, other than all ceramic using direct pattern technique, Fabrication of diagnostic wax-ups and wax patterns for fixed restoration. Examples of these tasks are displayed in Table 19. Training personnel and SMEs should review these and other unreferenced tasks to determine STS inclusion.

Plan of Instruction (POI) Analysis

Technical school SMEs matched JI tasks to the training objectives in POI J3ABR4YV032 001, dated May 1997. The method employed was similar to that of the STS percent members performing data for first-job (1-48 Months TICF) personnel, and TE and TD ratings. POI blocks, units of instruction, and criterion objectives were compared to the standard set forth in AETC Instruction 36-2601, dated July 1996 (30 percent or more of the first-assignment personnel performing tasks trained, along with sufficiently high TE and TD ratings of those tasks). In accordance with this guidance, tasks trained in the course not meeting these criteria should be considered for elimination from formal course training if not justified on some other acceptable basis.

TABLE 18

EXAMPLES OF 4Y0X2 STS ELEMENTS NOT SUPPORTED BY SURVEY DATA
(LESS THAN 20 PERCENT MEMBERS PERFORMING)

STS ITEMS (with selected matched tasks)	3-LVL COURSE PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1-24 MOS TICF (N=130)	1-48 MOS-TICF (N=65)	DAFSC 4Y032 (N=19)	TASK DIFF**
4g Fabricate resin veneered crowns and fixed partial dentures	1a					
D151 Fabricate resin-veneered fixed restorations, other than using attachments or microscopes		2.10	13	17	16	5.64
E194 Silicoat frameworks		1.10	9	8	32	5.02
7d(5) Duplicate master cast	1a					
C98 Duplicate RPD master casts to produce refractory or duplicate master casts		2.60	8	8	16	3.69
7d(6) Pour refractory casts	1a					
C98 Duplicate RPD master casts to produce refractory or duplicate master casts		2.60	8	8	16	3.69
7d(7) Pour duplicate master casts	1a					
C98 Duplicate RPD master casts to produce refractory or duplicate master casts		2.60	8	8	16	3.69

* TE MEAN = 2.81 S.D. = 1.94 (High TE >= 4.75)
** TD MEAN = 5.00 S.D. = 1.00 (High TD >= 6.00)

TABLE 19

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE
AFSC 4Y0X2 PERSONNEL AND NOT REFERENCED TO THE STS

SELECTED TASKS		TE*	PERCENT MEMBERS PERFORMING 1ST JOB (N=20)	49-96 (N=46)	DAFSC 4Y032 (N=22)	DAFSC 4Y052 (N=68)	DAFSC 4Y072 (N=24)	TD**
A33	Fabricate diagnostic wax-ups	4.00	75	68	84	73	62	5.16
D142	Fabricate fixed restorations using microscopes	5.75	65	68	68	67	75	5.69
D145	Fabricate metal occlusals	2.95	55	58	26	56	53	5.88
D146	Fabricate posts and cores, other than all-ceramic, using direct pattern technique	3.95	49	55	53	56	53	4.89
D169	Wax patterns for fixed restorations	6.90	78	77	79	79	64	5.57

* TE MEAN = 2.81; S.D. = 1.94 (HIGH TE >= 4.75)
** TD MEAN = 5.00; S.D. = 1.00 (HIGH TD>=6.00)

Based on OSR data, the POI J3ABR4YV032 001 is well supported. All POI line items met the 30 PMP criteria, and only 8 tasks performed by over 30 percent of the criteria groups with high TE ratings were not referenced in the POI. Examples of these tasks are displayed in Table 20. SMEs and training personnel should review these tasks and others rated high in TE, TD, and percent members performing for possible inclusion in the POI.

JOB SATISFACTION ANALYSIS

Table 21 compares active duty first-assignment (1-48 months TICF), second-assignment (49-96 months TICF), and career (97+ months TICF) group data. Review of this data displays the responses from AFSC 4Y0X2 TICF groups regarding job interest, use of talents, use of training, sense of accomplishment gained from work and reenlistment intentions. Even though the responses reflect a high satisfaction rating, management and training personnel should review this information for possible improvement. The lowest satisfaction rates of the three TICF groups were in the second assignment group (49-96 months TICF). This group was lower in comparison to the other groups in the area of "Sense of accomplishment gained from work". Overall, the 49-96 months TICF group has the lowest satisfaction level than the other groups, except in the area of "Perceived Utilization of Talents". In this area this group rated 94 percent "Fairly Well to Perfectly" in comparison to 89 percent in the 1-48 TICF group, and 91 percent in the 97+ months TICF group. The lower satisfaction rating for this specialty is in the area of "Reenlistment Intentions" where the average is 64 percent. Table 21 displays job satisfaction indicators for the current study, and Table 22 displays the job satisfaction indicators for the previous OSR (dated 1994). Comparison of the previous and current is not possible since the previous study was done before the specialty was converted to a lateral specialty. Therefore, TAFMS groups were used in the previous study, whereas the current study displays TICF groups.

Finally, Table 23 presents job satisfaction responses from personnel in the specialty jobs discussed in the **SPECIALTY JOBS** section of this report. An examination of these data can show how overall the type of job performed may influence job satisfaction. Like the TICF satisfaction rating discussed in the previous paragraph, this information also reflects a relatively satisfied career field. Two small job groups averaged the highest overall job satisfaction ratings, Dental Lab Apprentice (averaging 97 percent) and Dental Lab NCOIC and Superintendent Job (averaging 86 percent). The ADL Removable Partial Denture Technician Job had the lowest job satisfaction rating (averaging 70 percent). The low satisfaction ratings were primarily in the area of "Reenlistment Intentions", with an average of 61 percent. Overall, the Dental Lab career ladder personnel rated job satisfaction questions with positive responses with an average of 83 percent

TABLE 20

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE
FIRST ASSIGNMENT PERSONNEL AND NOT REFERENCED TO THE AFSC 4Y0X2 POI J3ABR4Y0321 001

SELECTED TASKS		TE*	PERCENT MEMBERS PERFORMING 1ST ASSIGNMENT (N=130)	TD**
A14	Construct casts for denture repairs	5.50	61	3.26
A34	Interpret and fill prescriptions	6.15	45	4.12
A50	Weigh and measure dental lab materials	5.45	77	2.24
A2	Add artificial teeth to existing removable partial	4.95	55	3.77
D121	Adjust proximal contacts using solid casts	6.60	68	4.75
D158	Presolder metal-ceramic substructure	5.15	35	5.51
E189	Glaze ceramic restorations mechanically	5.20	50	5.08
D171	Wax patterns for onlays	5.00	51	5.32
I332	Compile data for records, reports, logs, or trend analyses	2.39	43	4.99

* TE MEAN = 2.81 S.D. = 1.94 (High TE >= 4.75)
** TD MEAN = 5.00 S.D. = 1.00 (High TD >= 6.00)

TABLE 21

CURRENT JOB SATISFACTION INDICATORS FOR AFSC 4Y0X2 TICF GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MOS TICF 4Y0X2 (N=130)	49-96 MOS TICF 4Y0X2 (N=65)	97+ MOS TICF 4Y0X2 (N=131)
EXPRESSED JOB INTEREST:			
INTERESTING	83	80	85
SO-SO	11	12	10
DULL	6	8	5
PERCEIVED UTILIZATION OF TALENTS:			
FAIRLY WELL TO PERFECTLY	89	94	91
LITTLE OR NOT AT ALL	11	6	9
PERCEIVED UTILIZATION OF TRAINING:			
FAIRLY WELL TO PERFECTLY	94	92	93
LITTLE OR NOT AT ALL	6	8	7
SENSE OF ACCOMPLISHMENT GAINED FROM WORK:			
SATISFIED	85	75	82
NEUTRAL	6	11	5
DISSATISFIED	9	14	13
REENLISTMENT INTENTIONS:			
YES OR PROBABLY YES	66	50	74
NO OR PROBABLY NO	32	45	8
WILL RETIRE	2	5	18

TABLE 22

1994 JOB SATISFACTION INDICATORS FOR AFSC 4Y0X2 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MOS TAFMS 4Y0X2 (N=108)	49-96 MOS TAFMS 4Y0X2 (N=86)	97+ MOS TAFMS 4Y0X2 (N=194)
EXPRESSED JOB INTEREST:			
INTERESTING	81	86	88
SO-SO	10	8	7
DULL	9	6	5
PERCEIVED UTILIZATION OF TALENTS:			
FAIRLY WELL TO PERFECTLY	92	93	93
LITTLE OR NOT AT ALL	8	7	7
PERCEIVED UTILIZATION OF TRAINING:			
FAIRLY WELL TO PERFECTLY	94	95	95
LITTLE OR NOT AT ALL	6	5	5
SENSE OF ACCOMPLISHMENT GAINED FROM WORK:			
SATISFIED	84	88	84
NEUTRAL	10	1	6
DISSATISFIED	6	11	10
REENLISTMENT INTENTIONS:			
YES OR PROBABLY YES	67	68	72
NO OR PROBABLY NO	33	32	12
WILL RETIRE	0	0	16

TABLE 23

COMPARISON OF JOB SATISFACTION INDICATORS BY SPECIALTY JOBS
(PERCENT MEMBERS RESPONDING)

	Fixed Restoration Cluster (N=235)	Orthodontic Appliances Fabricator Job (N=41)	Dental Lab NCOIC & Superintendent Job (N=13)	ADL Removable Partial Denture Technician Job (N=7)	Dental Lab Apprentice Job (N=6)	ADL Ceramic Prostheses Fabricator Job (N=5)
EXPRESSED JOB INTEREST:						
INTERESTING	84	80	92	85	100	100
SO-SO	11	10	8	15		
DULL	5	10				
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	92	80	100	72	100	100
LITTLE OR NOT AT ALL	8	20		28		
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	95	92	92	81	100	80
LITTLE TO NOT AT ALL	5	7	8	29		20
SENSE OF ACCOMPLISHMENT GAINED FROM WORK:						
SATISFIED	86	66	85	71	100	100
NEUTRAL	4	17	0	15		
DISSATISFIED	10	17	15	14		
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	69	70	62	42	83	40
NO OR PROBABLY NO	24	20	0	29	17	60
WILL RETIRE	7	10	38	29	0	

IMPLICATIONS

This survey was initiated to provide current job and task data for use in evaluating the AFMAN 36-2108 *Specialty Description* and appropriate training documents.

The data for the Dental Laboratory (AFSC 4Y0X2) career ladder reflects a variety of jobs performed by career ladder members. Almost 72 percent of the survey sample spend their time in the core job Fixed Restoration Cluster. Other members work in a supervisory or management job or in one of several specialized jobs.

Diversification can be identified by three major factors; focus and nature of lab, experience level of the airmen performing, and lab size. These distinctions are obvious in one cluster and five jobs; Fixed Restoration Cluster, Orthodontic Appliances Fabricator Job, Dental Lab NCOIC and Superintendent Job, ADL Removable Partial Denture Technician, Dental Lab Apprentice Job and ADL Ceramic Prostheses Fabricator Job.

Entry-level training programs for the AFSC 4Y0X2 personnel appear to be working well, as evidenced by the previously noted positive response patterns by various groups to the question pertaining to training utilization. The STS and POI for AFSC 4Y0X2 are well supported by occupational survey data, with only a few unsupported line items and learning objectives. Training personnel, SMEs, and career ladder managers should review and evaluate potential areas cited in this report.

Job satisfaction indicators for the Dental Laboratory specialty is high, with the ratings lessened by the lower ratings in the area of "Reenlistment intentions". The Dental Apprentice Job had 4 out of the 5 areas rated at 100 percent satisfied. The ADL Ceramic Prostheses Fabricator Job had 3 out of 5 areas rated at 100 percent satisfied.

The information from this OSR comes directly from survey data collected from Dental Laboratory career ladder personnel worldwide. These data are readily available to training personnel, functional managers, and any interested parties having a need for such information. More detailed information is compiled and presented in training and analysis extracts. These extracts provide an excellent resource and tool for managers in making decisions affecting their career fields.

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APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE 1

FIXED RESTORATION CLUSTER

TASKS		PERCENT MEMBERS PERFORMING (N=235)
D0169	Wax patterns for fixed restorations	97
D0163	Seat castings	97
D0166	Sprue wax patterns for fixed restorations	97
A0006	Articulate using arbitrary mounting techniques	97
D0155	Finish and polish fixed restorations	96
D0136	Cutback wax patterns for porcelain or resin-veneered substructures	96
D0123	Apply die spacers	95
D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback	94
D0162	Restore occlusions of fixed restorations	94
E0174	Apply dentine and enamel porcelains	93
E0179	Apply shoulder porcelains	93
E0188	Fire porcelains	93
E0178	Apply opaque porcelains	93
A0036	Perform user maintenance on dental lab equipment	93
D0135	Contour fired porcelains	92
D0121	Adjust proximal contacts using solid casts	92
D0154	Finish substructures for porcelain applications	91
D0137	Deoxidize gold alloy castings	91
E0191	Oxidize substructures	90
D0132	Construct casts for fixed restorations	89
D0161	Restore occlusions and substructures	88
E0180	Apply and fire overglaze to ceramic restorations	87
D0127	Burnout wax patterns	87
D0159	Recover castings	87
D0142	Fabricate fixed restorations using microscopes	84
D0131	Cast metal-ceramic alloys	84
D0157	Invest wax patterns to pour to make molds for fixed restorations	83
E0196	Surface stain and color correct ceramic restorations	83
E0184	Fabricate crowns with porcelain labial margins	82
E0190	Glaze porcelain using autogenous methods	77
D0145	Fabricate metal occlusals	71

TABLE 2

ORTHODONTIC APPLIANCES FABRICATOR JOB

TASKS		PERCENT MEMBERS PERFORMING (N=41)
A0006	Articulate using arbitrary mounting techniques	100
A0011	Blockout undercuts on casts	100
G0234	Fabricate hard nightguards	98
B0071	Fabricate interim RPDs	98
A0035	Mark removable appliances with names and social security numbers	95
B0083	Perform selective grinding procedures	95
G0218	Fabricate athletic mouthguards	95
B0091	Select artificial teeth	95
A0043	Replace broken or missing artificial teeth on complete or partial denture bases	95
G0219	Fabricate bleaching stents	93
A0036	Perform user maintenance on dental lab equipment	93
B0059	Arrange artificial teeth to oppose natural dentitions	93
A0030	Disinfect appliances	90
A0015	Construct custom impression trays for fixed prosthodontics	90
B0057	Arrange artificial teeth for RPDs	90
B0061	Boil out wax from molds	90
A0002	Add artificial teeth to existing removable partial dentures (RPDs)	90
A0017	Construct custom impression trays for removable prosthodontics	88
B0078	Finish and polish denture bases	88
B0081	Flask RPDs	85
A0018	Construct diagnostic casts, other than orthodontic study/progress casts	83
A0031	Disinfect lab equipment or work areas	83
G0232	Fabricate fluoride carriers	83
B0093	Wax-up denture bases for processing	83
F0202	Fabricate Hawley retainers	78
A0027	Construct working casts with removable dies using Pindex-type systems	78
B0080	Flask complete dentures	78

TABLE 3

DENTAL LAB NCOIC AND SUPERINTENDENT JOB

TASKS		PERCENT MEMBERS PERFORMING (N=13)
J0360	Evaluate personnel for compliance with performance standards	100
K0395	Counsel trainees on training progress	100
K0396	Determine training requirements	100
J0368	Interpret policies, directives, or procedures for subordinates	92
J0367	Inspect personnel for compliance with military standards	92
J0356	Establish performance standards for subordinates	92
K0406	Maintain training records or files	92
J0361	Evaluate personnel for promotion, demotion, reclassification, or special awards	85
J0345	Determine or establish work assignments or priorities	85
J0343	Counsel subordinates concerning personal matters	85
K0385	Brief personnel concerning training programs or matters	85
K0394	Conduct on-the-job training (OJT)	85
J0381	Write or indorse military performance reports	85
J0338	Conduct self-inspections or self-assessments	85
K0403	Evaluate effectiveness of training programs, plans, or procedures	77
K0404	Evaluate progress of trainees	77
L0424	Maintain administrative files	77
J0337	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	77
J0340	Conduct supervisory performance feedback sessions	77
J0382	Write recommendations for awards or decorations	77
J0350	Develop or establish work methods or procedures	77
J0351	Develop or establish work schedules	77
K0398	Develop training programs, plans, or procedures	69
J0363	Evaluate quality of finished prostheses	69
K0400	Develop or procure training materials or aids	62
L0412	Compile data for records, reports, logs, or trend analyses	62
K0397	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	54
K0402	Evaluate training methods or techniques of instructors	54

TABLE 4

ADL REMOVABLE PARTIAL DENTURE TECHNICIAN

TASKS		PERCENT MEMBERS PERFORMING (N=7)
C0095	Blockout and relieve RPD master casts	100
C0104	Fabricate ticonium castings for RPDs	100
C0110	Prepare RAPs for RPD frameworks	100
C0106	Finish and polish RPD frameworks	86
C0112	Seat finished RPD frameworks on duplicate master casts	86
C0118	Wax and adapt components of RPD framework patterns on refractory casts	86
A0011	Blockout undercuts on casts	86
A0048	Survey casts for undercuts	86
C0107	Invest wax patterns for RPDs	86
C0115	Solder wrought-wire clasps to RPD frameworks	86
C0109	Prepare blockout wax	86
C0097	Dehydrate and seal refractory casts	86
C0113	Solder RPD metal frameworks electrically	86
C0096	Burnout and cast RPD investment molds	86
K0394	Conduct on-the-job training (OJT)	86
C0094	Bend RPD wrought-wire clasps	86
A0036	Perform user maintenance on dental lab equipment	86
C0117	Transfer designs from RPD diagnostic casts to master casts	71
A0028	Design prostheses on master casts	71
J0363	Evaluate quality of finished prostheses	71
C0116	Survey and design casts for RPD frameworks	71
C0098	Duplicate RPD master casts to produce refractory or duplicate master casts	71
J0381	Write or indorse military performance reports	71
K0395	Counsel trainees on training progress	71
A0050	Weigh and measure dental lab materials	71
C0102	Fabricate RPD frameworks, other than swing-lock, using precision attachments	57
A0049	Transfer designs from diagnostic casts to master casts, other than for fabrication of RPD frameworks	57
A0034	Interpret and fill prescriptions	57
0114	Solder RPD metal frameworks using torches	57

TABLE 5

DENTAL LAB APPRENTICE

TASKS		PERCENT MEMBERS PERFORMING (N=6)
D0169	Wax patterns for fixed restorations	100
D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback	100
D0136	Cutback wax patterns for porcelain or resin-veneered substructures	100
D0166	Sprue wax patterns for fixed restorations	100
A0006	Articulate using arbitrary mounting techniques	100
A0031	Disinfect lab equipment or work areas	83
D0128	Calculate alloy weight to produce castings	83
A0036	Perform user maintenance on dental lab equipment	67
D0142	Fabricate fixed restorations using microscopes	67
A0033	Fabricate diagnostic wax-ups	67
D0123	Apply die spacers	67
D0173	Wax resin-bonded FPDs using waxes	67
D0132	Construct casts for fixed restorations	67
D0171	Wax patterns for onlays	67
A0027	Construct working casts with removable dies using Pindex-type systems	67
A0050	Weigh and measure dental lab materials	67
D0157	Invest wax patterns to pour to make molds for fixed restorations	50
D0147	Fabricate posts and cores, other than all-ceramic, using indirect pattern technique	50
D0149	Fabricate resin-bonded FPDs using direct-draw techniques	50
I0283	Administer or practice cardiopulmonary resuscitation (CPR)	50
D0168	Wax metal-ceramic substructures without waxing to full contour	33
J0367	Inspect personnel for compliance with military standards	33
A0034	Interpret and fill prescriptions	33
D0145	Fabricate metal occlusals	33
A0045	Ship or receive cases	17

TABLE 6

ADL CERAMIC PROSTHESES FABRICATOR JOB

TASKS		PERCENT MEMBERS PERFORMING (N=5)
E0188	Fire porcelains	100
E0174	Apply dentine and enamel porcelains	100
D0121	Adjust proximal contacts using solid casts	100
E0176	Apply intrinsic stains	100
D0135	Contour fired porcelains	80
E0179	Apply shoulder porcelains	80
E0196	Surface stain and color correct ceramic restorations	80
E0180	Apply and fire overglaze to ceramic restorations	80
E0181	Construct refractory dies or casts	80
E0175	Apply dentine modifiers	80
E0182	Etch porcelain laminate veneers	80
E0189	Glaze ceramic restorations mechanically	80
A0036	Perform user maintenance on dental lab equipment	80
J0381	Write or indorse military performance reports	80
D0122	Apply die hardeners	80
E0187	Fabricate porcelain laminate veneers	60
A0034	Interpret and fill prescriptions	60
E0178	Apply opaque porcelains	60
E0190	Glaze porcelain using autogenous methods	60
E0177	Apply opaque modifiers	60
E0191	Oxidize substructures	60
D0142	Fabricate fixed restorations using microscopes	60
J0363	Evaluate quality of finished prostheses	60
K0404	Evaluate progress of trainees	60
K0394	Conduct on-the-job training (OJT)	60
K0395	Counsel trainees on training progress	60
K0396	Determine training requirements	60
E0185	Fabricate in-ceram restorations	40
A0031	Disinfect lab equipment or work areas	40
D0123	Apply die spacers	40
E0184	Fabricate crowns with porcelain labial margins	40
J0367	Inspect personnel for compliance with military standards	40
A0050	Weigh and measure dental lab materials	40
D0162	Restore occlusions of fixed restorations	40
D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback	40
A0006	Articulate using arbitrary mounting techniques	40
A0037	Prepare impressions	20

APPENDIX B

LISTING OF MODULES AND TASK STATEMENTS

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DENTAL LABORATORY CAREER LADDER
LISTING OF MODULE STATEMENTS

These Task Modules (TMs) were developed in order to organize and summarize the extensive task information for this specialty. The TMs were derived by statistical clustering of the tasks in terms of which tasks are performed by the same incumbents. For example, if an individual performs one documentation task, the probability is very high that he or she also will perform other documentation task. Thus, the group of documentation tasks can be considered as "natural groupings."

The titles of each TM is our best estimate as to the generic subject content of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

LISTING OF MODULE STATEMENTS

ST0280	FIXED RESTORATION FABRICATION
ST0225	RPD FABRICATION
ST0239	DENTURE REPAIR AND FABRICATION
ST0232	DENTURE TOOTH ARRANGEMENT
ST0132	WORKCENTER MANAGEMENT
ST0188	SCHEDULING DUTIES
ST0200	PRECIOUS METALS DUTIES
ST0187	SUPPLY ACTIVITIES
ST0173	ORTHODONIC FABRICATION
ST0186	EMERGENCY TREATMENT
ST0038	TRAINING PROGRAM DUTIES
ST0153	METAL DENTURE FABRICATION
ST0129	CONFERENCE/MANAGEMENT/ADMINISTRATION DUTIES
ST0220	SURGICAL APPLIANCE FABRICATION
ST0304	SLA FUNCTIONS

LISTING OF TASK STATEMENTS

STAGE 27
DENTAL LAB APPRENTICE

ST0280 - FIXED RESTORATION FABRICATION ST0187 - SUPPLY ACTIVITIES
ST0225 - RPD FABRICATION
ST0132 - WORKCENTER MANAGEMENT
ST0186 - EMERGENCY TREATMENT

STAGE 34
ADL CERAMIC PROSTHESES FABRICATOR JOB

ST0280 - FIXED RESTORATION FABRICATION
ST0132 - WORKCENTER MANAGEMENT
ST0187 - SUPPLY ACTIVITIES
ST0225 - RPD FABRICATION
ST0038 - TRAINING PROGRAM DUTIES ST0239

STAGE 19
FIXED RESTORATION CLUSTER

ST0280 - FIXED RESTORATION FABRICATION
ST0225 - RPD FABRICATION
ST0200 - PRECIOUS METALS DUTIES ST0239 - DENTURE REPAIR AND FABRICATION
ST0232 - DENTURE TOOTH ARRANGEMENT
ST0132 - WORKCENTER MANAGEMENT
ST0188 - SCHEDULING DUTIES
ST0187 - SUPPLY ACTIVITIES
ST0173 - ORTHODONIC FABRICATION
ST0186 - EMERGENCY TREATMENT
ST0038 - TRAINING PROGRAM DUTIES
ST0153 - METAL DENTURE FABRICATION
ST0239 - DENTURE REPAIR AND FABRICATION

STAGE 28
ORTHODONTIC APPLIANCES FABRICATOR JOB

ST0280 - FIXED RESTORATION FABRICATION
ST0225 - RPD FABRICATION
ST0239 - DENTURE REPAIR AND FABRICATION
ST0232 - DENTURE TOOTH ARRANGEMENT
ST0132 - WORKCENTER MANAGEMENT
ST0188 - SCHEDULING DUTIES
ST0200 - PRECIOUS METALS DUTIES
ST0187 - SUPPLY ACTIVITIES
ST0186 - EMERGENCY TREATMENT
ST0038 - TRAINING PROGRAM DUTIES
ST0153 - METAL DENTURE FABRICATION

STAGE 24
DENTAL LAB NCOIC AND SUPERINTENDENT JOB

ST0280 - FIXED RESTORATION FABRICATION
ST0225 - RPD FABRICATION
ST0239 - DENTURE REPAIR AND FABRICATION
ST0232 - DENTURE TOOTH ARRANGEMENT
ST0132 - WORKCENTER MANAGEMENT
ST0188 - SCHEDULING DUTIES
ST0200 - PRECIOUS METALS DUTIES
ST0187 - SUPPLY ACTIVITIES
ST0186 - EMERGENCY TREATMENT
ST0038 - TRAINING PROGRAM DUTIES
ST0153 - METAL DENTURE FABRICATION

STAGE 22
ADL REMOVABLE PARTIAL DENTURE TECHNICIAN

ST0280 - FIXED RESTORATION FABRICATION
ST0225 - RPD FABRICATION
ST0239 - DENTURE REPAIR AND FABRICATION
ST0232 - DENTURE TOOTH ARRANGEMENT
ST0132 - WORKCENTER MANAGEMENT
ST0188 - SCHEDULING DUTIES
ST0200 - PRECIOUS METALS DUTIES
ST0187 - SUPPLY ACTIVITIES
ST0186 - EMERGENCY TREATMENT
ST0038 - TRAINING PROGRAM DUTIES
ST0153 - METAL DENTURE FABRICATION

0001 Stage 280: Fixed Restoration Fabrication

1	D0121	Adjust proximal contacts using solid casts
2	D0122	Apply die hardeners
3	D0123	Apply die spacers
4	D0127	Burnout wax patterns
5	D0128	Calculate alloy weight to produce castings
6	D0130	Cast conventional gold alloys
7	D0131	Cast metal-ceramic alloys
8	D0132	Construct casts for fixed restorations
9	D0135	Contour fired porcelains
10	D0136	Cutback wax patterns for porcelain or resin-veneered substructures
11	D0137	Deoxidize gold alloy castings
12	D0142	Fabricate fixed restorations using microscopes
13	D0154	Finish substructures for porcelain applications
14	D0155	Finish and polish fixed restorations
15	D0157	Invest wax patterns to pour to make molds for fixed restorations
16	D0159	Recover castings
17	D0160	Recover precious metal grindings or scraps
18	D0161	Restore occlusions and substructures
19	D0162	Restore occlusions of fixed restorations
20	D0163	Seat castings
21	D0166	Sprue wax patterns for fixed restorations
22	D0167	Wax metal-ceramic substructure patterns to full contour prior to cutback
23	D0169	Wax patterns for fixed restorations
24	E0174	Apply dentine and enamel porcelains
25	E0178	Apply opaque porcelains
26	E0179	Apply shoulder porcelains
27	E0180	Apply and fire overglaze to ceramic restorations
28	E0184	Fabricate crowns with porcelain labial margins
29	E0188	Fire porcelains
30	E0189	Glaze ceramic restorations mechanically
31	E0190	Glaze porcelain using autogenous methods
32	E0191	Oxidize substructures
33	E0196	Surface stain and color correct ceramic restorations

0002 Stage 225: RPD Fabrication

1	A0007	Articulate using facebow transfers
2	A0010	Bead and box impressions
3	A0011	Blockout undercuts on casts
4	A0012	Bulk trim dies
5	A0015	Construct custom impression trays for fixed prosthodontics
6	A0017	Construct custom impression trays for removable prosthodontics

7	A0018	Construct diagnostic casts, other than orthodontic study/progress casts
8	A0027	Construct working casts with removable dies using Pindex-type systems
9	A0030	Disinfect appliances
10	A0031	Disinfect lab equipment or work areas
11	A0035	Mark removable appliances with names and social security numbers
12	A0037	Prepare impressions
13	A0038	Prepare saturated calcium sulphate dihydrate solutions (SDSs)
14	A0039	Prepare slurry water
15	A0044	Repolish prostheses after clinical adjustments
16	A0048	Survey casts for undercuts
17	F0202	Fabricate Hawley retainers
18	G0218	Fabricate athletic mouthguards
19	G0219	Fabricate bleaching stents
20	G0232	Fabricate fluoride carriers
21	G0234	Fabricate hard nightguards

0003 Stage 239: Denture Repair and Fabrication

1	A0002	Add artificial teeth to existing removable partial dentures (RPDs)
2	A0014	Construct casts for denture repairs
3	A0019	Construct master casts for complete dentures
4	A0020	Construct master casts for RPDs
5	A0025	Construct stone matrices for denture repairs
6	A0026	Construct working casts for orthodontic appliances
7	A0041	Repair complete or partial denture bases, other than replacing broken or missing artificial teeth
8	A0043	Replace broken or missing artificial teeth on complete or partial denture bases
9	B0052	Arrange artificial teeth for bilateral-balanced occlusions
10	B0053	Arrange artificial teeth for cross-bite occlusions
11	B0054	Arrange artificial teeth for immediate dentures
12	B0055	Arrange artificial teeth for lingualized occlusions
13	B0056	Arrange artificial teeth for monoplane occlusions
14	B0057	Arrange artificial teeth for RPDs
15	B0059	Arrange artificial teeth to oppose natural dentitions
16	B0061	Boil out wax from molds
17	B0065	Construct remount casts
18	B0066	Construct remounting indices
19	B0070	Fabricate immediate complete dentures or RPDs
20	B0071	Fabricate interim RPDs
21	B0075	Fabricate record bases and occlusion rims
22	B0078	Finish and polish denture bases
23	B0080	Flask complete dentures
24	B0081	Flask RPDs
25	B0082	Pack and cure complete denture molds
26	B0083	Perform selective grinding procedures
27	B0084	Prepare posterior palatal seals
28	B0089	Recover or remount complete dentures or RPDs
29	B0090	Reline complete dentures or RPDs
30	B0091	Select artificial teeth
31	B0092	Split pack and cure RPD molds

32	B0093	Wax-up denture bases for processing
33	F0213	Repair orthodontic appliances
34	G0252	Fabricate surgical stents

0004 Stage 232: Denture Tooth Arrangement

1	A0001	Adapt artificial teeth to casts and construct indices for reinforced acrylic pontics (RAPs)
2	A0008	Attach RAPs to RPD frameworks
3	B0062	Characterize artificial tooth arrangements
4	B0063	Characterize complete denture wax-ups or RPD wax-ups

0005 Stage 132: Workcenter Management

1	J0338	Conduct self-inspections or self-assessments
2	J0340	Conduct supervisory performance feedback sessions
3	J0341	Conduct safety inspections of equipment or facilities
4	J0343	Counsel subordinates concerning personal matters
5	J0345	Determine or establish work assignments or priorities
6	J0350	Develop or establish work methods or procedures
7	J0356	Establish performance standards for subordinates
8	J0359	Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) or Occupational Safety and Health Administration (OSHA) program
9	J0360	Evaluate personnel for compliance with performance standards
10	J0361	Evaluate personnel for promotion, demotion, reclassification or special awards
11	J0363	Evaluate quality of finished prostheses
12	J0367	Inspect personnel for compliance with military standards
13	J0368	Interpret policies, directives or procedures for subordinates
14	J0381	Write or indorse military performance reports
15	J0382	Write recommendations for awards or decorations
16	K0385	Brief personnel concerning training programs or matters
17	K0394	Conduct on-the-job training (OJT)
18	K0395	Counsel trainees on training progress
19	K0396	Determine training requirements
20	K0404	Evaluate progress of trainees
21	K0406	Maintain training records or files

0006 Stage 188: Scheduling Duties

1	J0335	Assign personnel to work areas or duty positions other than medical readiness mobility positions
2	J0337	Conduct general meetings, such as staff meetings, briefings, conferences or workshops
3	J0351	Develop or establish work schedules
4	J0375	Schedule personnel for temporary duty (TDY) assignments, leave or passes

0007 Stage 200: Precious Metals Duties

1	J0370	Manage precious metals or alloy recovery programs
2	L0411	Administer monthly audits of precious metals and alloys
3	L0428	Maintain registers of precious metals or alloys
4	M0442	Receive or issue precious metals or alloys
5	M0444	Secure precious metals or alloys

0008 Stage 187: Supply Activities

1	J0344	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies or workspace
2	M0432	Coordinate maintenance of equipment with appropriate agencies
3	M0434	Evaluate serviceability of equipment or supplies
4	M0435	Identify and report equipment or supply problems
5	M0436	Initiate requisitions for equipment or supplies
6	M0437	Inventory equipment or supplies, other than medical readiness or OR field equipment or supplies
7	M0438	Issue or log turn-ins of equipment or supplies, other than precious metals or alloys
8	M0441	Pick up, deliver or store equipment or supplies
9	M0443	Research requisitions for equipment or supplies, other than precious metals or alloys

0009 Stage 173: Orthodonic Fabrication

1	F0198	Fabricate fixed rapid palatal expansion appliances
2	F0199	Fabricate fixed space maintainers
3	F0203	Fabricate inclined bite planes
4	F0204	Fabricate lingual arch appliances
5	F0205	Fabricate Nance appliances
6	F0206	Fabricate removable palatal expansion appliances
7	F0217	Solder orthodontic appliances, other than for repairs

0010 Stage 186: Emergency Treatment

1	I0299	Initiate treatment for closed wounds
2	I0300	Initiate treatment for fractures
3	I0301	Initiate treatment for injuries from chemical agents
4	I0302	Initiate treatment for open wounds
5	I0303	Initiate treatment for patients in shock
6	I0304	Initiate treatment for patients with dizziness
7	I0305	Initiate treatment for thermal injuries or heat disorders
8	I0306	Initiate treatment for first-degree burns
9	I0307	Initiate treatment for second-degree burns

10 I0308 Initiate treatment for third-degree burns
11 I0324 Perform immediate medical casualty care, such as basic cardiac life support

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0011 Stage 38: Training Program Duties

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1 K0384 Administer or score tests
2 K0386 Complete student entry or withdrawal forms
3 K0387 Conduct advanced courses or implant courses
4 K0391 Conduct formal course classroom training
5 K0397 Develop formal course curricula, plans of instruction (POIs) or specialty training standards (STSs)
6 K0398 Develop training programs, plans or procedures
7 K0399 Develop written tests
8 K0400 Develop or procure training materials or aids
9 K0401 Establish or maintain study reference files
10 K0402 Evaluate training methods or techniques of instructors
11 K0403 Evaluate effectiveness of training programs, plans or procedures
12 K0405 Inspect training materials or aids for operation or suitability
13 K0407 Personalize lesson plans
14 K0409 Prepare job qualification standards (JQSs)
15 K0410 Write training reports

0012 Stage 153: Metal Denture Fabrication

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1 C0096 Burnout and cast RPD investment molds
2 C0100 Fabricate metal denture bases
3 C0103 Fabricate swing-lock RPD frameworks
4 C0104 Fabricate ticonium castings for RPDs
5 C0105 Fabricate titanium castings for RPDs
6 C0106 Finish and polish RPD frameworks
7 C0112 Seat finished RPD frameworks on duplicate master casts
8 C0113 Solder RPD metal frameworks electrically
9 C0114 Solder RPD metal frameworks using torches
10 C0115 Solder wrought-wire clasps to RPD frameworks

0013 Stage 129: Conference/Management/Administration Duties

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1 K0388 Conduct area dental lab (ADL) host certification examinations
2 K0389 Conduct civilian conventions, seminars or trade shows
3 K0390 Conduct conferences for search and recovery teams
4 K0392 Conduct national board examinations
5 L0418 Initiate classified reports, messages or documents

0014 Stage 220: Surgical Appliance Fabrication

1	G0224	Fabricate cranial implants
2	G0228	Fabricate ear pillows
3	G0233	Fabricate glossectomy appliances
4	G0235	Fabricate infant feeders
5	G0237	Fabricate mandibular guide flanges
6	G0239	Fabricate nasal stents
7	G0240	Fabricate obstetrics/gynecology (OB/GYN) stents
8	G0242	Fabricate palatal lifts
9	G0243	Fabricate pectus-excavatum implants
10	G0246	Fabricate plastic surgery silicone implants
11	I0325	Perform inpatient surgical care under field conditions
12	I 0326	Perform minor side cross-matching tests, such as compatibility tests
13	I 0327	Perform outpatient surgical care under field conditions

0015 Stage 304: SLA Functions

1	H0255	Add resins to vat
2	H0256	Build supports for maxillofacial parts
3	H0257	Clean stereolithography apparatus (SLA) platforms
4	H0258	Combine stereolithography (STL) files using maestro program
5	H0259	Create Boolean operations using magic program
6	H0260	Create build files for SLA using maestro program
7	H0261	Create STL files using ctm software
8	H0262	Create three-dimensional models using mimics program
9	H0263	Create spreadsheets using part parameters
10	H0264	Drain excess resins from parts
11	H0265	Edit two-dimensional images
12	H0267	Hone SLA platforms
13	H0268	Initiate builds using SLA programs
14	H0269	Inject dyes into quick-cast parts
15	H0270	Input CAT scan (CT) data into computer
16	H0271	Interpret CT data
17	H0272	Load SLA platforms
18	H0273	Locate and create three-dimensional images of tumors
19	H0275	Position parts on SLA platforms using x, y, z coordinates
20	H0276	Preview files for proper builds
21	H0277	Recombine STL files using maestro program
22	H0278	Remove supports from parts
23	H0279	Transfer files to SLA machines
24	H0280	Transfer parts to benches
25	H0281	Transfer parts to parts washers
26	H0282	Transfer programs from maestro to mimics